

Sexual sensation seeking, hookups, and alcohol consumption among first-year college students

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Abstract:

Objective: To explore sexual sensation seeking (SSS) among an ethnically-diverse sample of first-year college students and their hookup behaviors. **Participants:** 1,480 first-year college students who hooked up in the last 30 days were recruited from four universities in 2016. **Methods:** Students completed an online survey before completing an online STI and alcohol prevention intervention. **Results:** Male and sexual minority students had significantly higher SSS scores compared to female and heterosexual students respectively. Students with higher SSS scores were less likely to report condom use at last vaginal and anal hookup, more likely to hookup under the influence of alcohol and participate in a wide range of sexual behaviors. There were no significant mean differences in SSS scores by level of intoxication during their last hookup. **Conclusion:** These findings highlight the role of SSS in predicting sexual risk behaviors of first-year college students and the overall low SSS scores among this sample.

Keywords: Alcohol | college students | hookups | sexual sensation seeking

Article:

Introduction

The first year of college is a unique transitional and developmental period. During this period students develop a new found autonomy that allows for the exploration of their sexuality including engaging in more risk taking behaviors.¹ First-year college students are more likely to engage in heavy episodic drinking² and participate in hookups compared to Seniors (28.4% vs. 19.3%).³ A hookup can consist of vaginal, anal, and/or oral sex as well as kissing and mutual masturbation,⁴⁻⁶ without the explicit expectation of a romantic relationship.^{7,8} Although, hookups do not necessarily involve sex, if someone has condomless sex it will heighten their risk of contracting a sexually transmitted infection (STIs). College-aged individuals account for nearly

half of the 20 million new STI cases in the United States annually.⁹ Given this disparity it is important to identify risk factors that place first-year college students at higher risk of participating in sexual risk behaviors to prevent STI transmission. This includes the investigation of personality traits, such as sexual sensation seeking (SSS), which has been correlated with an increase of sexual risk behaviors (i.e., condomless sex, sex under the influence of drugs and alcohol).

Sexual sensation seeking

SSS is a personality trait that is defined as the tendency to prefer exciting, optimal, and novel levels of stimulation and arousal.⁴ For sexual sensation seekers, the rewards of SSS may outweigh the physical and social risks of participating in the behaviors.¹⁰ For example, sexual sensation seekers are less likely to use condoms during sexual intercourse because it is seen as a barrier to optimal arousal and pleasure and they underestimate the sexual risks associated with their actions.^{11,12} Sexual sensation seekers are also more likely to have multiple concurrent partners, permissive sex attitudes, less consistent condom use which increases their STI risk and decreases their sexual safety.^{13,14} Most of the research on college students' sexual behaviors has focused on vaginal, anal, and oral sex,¹⁵ however, sexual sensation seekers may participate in other behaviors, such as oral sex and manual stimulation, in order to achieve pleasure. Typically, individuals follow a trajectory of sexual behaviors starting with kissing, fondling, and masturbation and then later engaging in intercourse.¹⁶ Research has shown that SSS is positively correlated with participating in solo behaviors such as masturbation, receiving oral sex, but not giving oral sex or having vaginal sex.¹⁷ Despite the rise in research on hookup culture over the last decade,^{7,8,18} the relationship between SSS and hookup behaviors (including kissing, fondling, mutual masturbation, oral, anal, and vaginal sex) among first-year college students has yet to be explored.

Hookups and alcohol

Sexual sensation seekers often have sexual intercourse under the influence of alcohol.¹⁹ Approximately 64% of first-semester hookups occur under the influence alcohol with an average of three drinks consumed before their last hookup.²⁰ Hookups under the influence of alcohol is an area of public health concern, as alcohol consumption lowers the likelihood that an individual will use a condom and thereby increases the risk of contracting a STI. First-year college students who are sexual sensation seekers may be at higher risk of initiating alcohol consumption or escalating their current drinking behaviors.² Although sexual sensation seekers sometimes engage in low risk sexual behaviors, in the presence of alcohol they may be at higher risk of contracting STIs by escalating their behaviors such as kissing, fondling, and masturbation to condomless sex. Thus, understanding the relationship between SSS and alcohol consumption is important to identify ways to intervene and reduce the likelihood of high sexual sensation seekers consuming alcohol prior to hooking up.

Demographic correlates

SSS has been shown to be higher among male,^{12,14} sexual minorities (people who identify as LGBTQIA),^{4,21,22} and people of color.^{13,23,24} Heterosexual and sexual minority males are more

likely to be sexual sensation seekers than heterosexual and sexual minority females. However, little is known about the role of SSS as a precursor of sexual risk behaviors for sexual minority college students. In 2018, the American College Health Association (ACHA) reported that 18.1% of undergraduates identified as LGBTQIA, an increase from 6.6% in 2008.²⁵ As the number of sexual minorities on college campuses continue to increase it is important to explore factors related to their sexual health, so they can have safe college experiences. Although several studies have examined SSS among people of color in the US,^{13,23,24} there is a dearth in the literature examining SSS among college students of color and how it influences their sexual health. Despite Black and Hispanic college students reporting more frequent and consistent condom use during oral, anal, and vaginal sex compared to their White peers,²⁶ these groups still face significant STI disparities.²⁷ Exploring personality traits that may heighten their risk of STI transmission, such as SSS, will aid in the creation of health promotion interventions.

Purpose and research questions

The purpose of this study was to explore SSS among an ethnically-diverse sample of first-year college students and the role of SSS as a predictor of alcohol consumption prior to sex, condom use, and hookup behaviors. The following research questions guide this study:

1. Are there significant mean differences in SSS by demographic characteristics (e.g., gender, race and sexual orientation)?

H1: Male students, White students, and sexual minority students will have higher SSS scores than their counterparts.

2. What is the association between SSS and participation in specific hookup behaviors?

H2: We hypothesize that college students with higher sexual sensation seeking scores will report participating in a wider range of sexual behaviors due to their desire to achieve arousal, pleasure, and satisfaction.

3. Is SSS associated with condom use during vaginal and anal sex? Is this association moderated by gender and sexual orientation?

H3: We hypothesize that students with higher SSS scores will be less likely to report using a condom at last intercourse. This association will be stronger for sexual minority students.

4. Is SSS associated with alcohol use before or during their last hookup and how are these association moderated by gender and sexual orientation?

H4: We also hypothesize that sexual sensation seekers will be more likely to report consuming alcohol at last hookup. This association will be greater for males and sexual minority students.

Finally, differences in the level of intoxication during their last hookup by gender, sexual orientation, and SSS scores were also explored.

Method

The present analysis utilized baseline data extracted from an ongoing experimental trial of an online behavioral intervention, *itMatters*, that targets the intersection of alcohol and sexual risk behaviors designed to prevent STIs.²⁸ First-year students from four universities were recruited and invited to complete surveys at 3 time points: (1) prior to the intervention (baseline), (2) immediately following the intervention period, and (3) 30-days post-intervention. Data from the baseline survey was used in this study because it contained the largest number of students due to attrition at Survey 2 and 3. Students were provided informed consent and incentives for survey completion. Findings from the larger experimental trial will be reported elsewhere. This study was approved by the institutional review board at the University of North Carolina Greensboro.

Table 1. Demographic and behavioral characteristics of first-year students who engaged in a hookup ($N=1,480$).

Demographic characteristics	<i>n</i>	%
Age		
18	1,311	88.6
19	169	11.4
Sex		
Male	650	43.9
Female	830	56.1
Sexual orientation		
Heterosexual	1,359	92.0
Sexual minority	118	8.0
Race		
White	767	64.1
Black	295	24.7
Other	134	11.2
Behavioral characteristics		
Condom use during sex		
Yes	408	67.3
No	198	32.7
Condom use during anal sex		
Yes	41	48.2
No	44	51.8
Consumed alcohol before hookup		
Yes	316	21.6
No	1,150	78.4
Level of intoxication during hookup		
Not drunk	46	16.0
A little drunk	122	42.5
Drunk	119	31.4

Participants

Of the four universities that participated in the study, two were predominately white institutions, one was a Hispanic-serving and minority-serving institution, and one was a historically black college/university. Only first-year students, including transfer students, were eligible to participate in the online survey. Baseline data were collected from 5,897 students. The analytic sample was limited to participants who reported participating in at least one hookup in the last 30 days and those who identified as male or female and were traditional first-year college student age 18 or 19 ($N=1,480$). Students must have participated in one hookup in order to receive the questions relevant to condom use and alcohol use at last hookup. This study was limited to those that identified as male or female because there was not a sufficient transgender student sample ($n=7$). We also focused on traditional first-year students due to their heightened risk of sexual risk taking and increased alcohol consumption during their transition to college.^{2,20} A full description of the sample is presented in Table 1. The majority of the sample were 18 years old (88.6%), female (56.1%), and identified as heterosexual (92.0%). The sample identified as White (64.0%), Black (24.7%), and Other (11.2%).

Procedures

All first-year college students at the four universities received an email in early between August and September 2016 inviting them to participate in the online baseline survey through Qualtrics before completing *itMatters*. The baseline survey was available for three weeks. There was no time limit to complete the survey and students were allowed to skip any questions that made them feel uncomfortable or to stop their participation in the study at any time. Upon completion students received an electronic \$5 Amazon gift card.

Measures

Demographic characteristics. Participants were to describe their race/ethnicity, sexual orientation and gender identity (e.g., male, female, transgender male to female and transgender female to male). For the purposes of the present analysis, sexual orientation was dichotomized to heterosexual and sexual minority (e.g., gay, lesbian, bisexual, other).

Sexual sensation seeking. The SSS scale was developed by Zuckerman^{29,30} and modified by Kalichman et al.³¹ The scale contains 10 items related to sexual risk-taking and exploration (e.g. “my sexual partners probably think I am a risk taker,” “I feel like exploring my sexuality,” “I like to have new and exciting sexual experiences and sensations”). The response options were presented on a Likert scale ranging from 1=*not at all like me* to 4=*very much like me*. For the present analysis, response options were computed as a mean score on a four-point scale. The scale exhibited strong reliability ($\alpha = .87$) and mean scores ranged from 0 (*low sexual sensation seeking*) to 4 (*high sexual sensation seeking*).

Condom use. Participants who indicated that they engaged in anal, oral or vaginal sex during their most recent hookup were subsequently asked if a condom was used for each sexual behavior. Response options were yes, no, and I don’t know/remember. In the present analysis, participants who stated that they did not know or remember were combined with the no group. Participants could have been under the influence of alcohol and not remembered whether they

used a condom or not or had difficulties remembering the details of their last hookup if it was longer than 30 days.

Sexual behaviors during hookup. In this study a hookup was defined for participants as a *non-penetrative (kissing, touching, oral sex) and/or penetrative (vaginal, anal) behaviors with someone whom you are not in a committed relationship (friends with benefits) or with someone you just met (one night stand)*. Participants were asked, “during your most recent hookup, which of the following behaviors did you engage in?” Participants were asked to select all the behaviors they engaged in including: kissing; oral sex (received/given); manual stimulation (received/given); oral sex (received/given); masturbation (solo/mutual); touched breast and buttocks (received/given); anal sex (insertive/receptive); and vaginal sex. A total of 12 behaviors were presented to participants. Behaviors were analyzed individually to examine if higher sexual sensation seekers were more likely to participate in a wider range of sexual behaviors.

Alcohol consumption at last hookup. Participants were asked, “during your most recent hookup did you consume any alcohol before or during the hookup?” Response options were yes, no, or don’t know/remember. For the purposes of this study, don’t know/remember was combined with the yes group. Participants who stated they did not remember were combined with the yes group because there is a possibility that they drank alcohol (and do not remember) or they felt uncomfortable admitting the truth (responding to social desirability).

Level of intoxication. Participants who said they consumed alcohol before or during their last hookup were asked to “rate the degree to which you think you were drunk or not.” Response options were not drunk, a little drunk, drunk, and very drunk. Participants who said they were drunk or very drunk were combined.

Analytic plan

Descriptive statistics were conducted to summarize the sample and assessed initial bivariate associations using analysis of variance (ANOVA) using SPSS version 24. To address research question 1, an ANOVA was conducted to test the differences in SSS mean scores by gender, race, and sexual orientation. To address research question 2, twelve logistic regression models were conducted to see if there was a significant relationship between SSS and participation in specific hookup behaviors. To address research question 3, two binary logistic regression models were used to analyze the relationship between SSS mean score (1) condom use at last vaginal sex and (2) condom use at last anal sex. In Block 1 of the binary logistic regressions the association between SSS and each the outcome variable for each of the three models was explored. In Block 2, sexual orientation and gender were added to the model. In Block 3 the moderating effects of sexual orientation and gender were tested through interaction terms. To address research question 4, logistic regressions similar to those above were used to analyze the relationship between SSS and alcohol use at last hookup. The blocks in this logistic regressions were identical to the previous logistic regressions. Finally, we explored differences in level of intoxication by gender and sexual orientation through Chi-square analyses. Mean differences in SSS scores by level of intoxication were explored through an ANOVA.

Results

Participant sexual behavior characteristics

A little more than one-fifth (21.6%, $N=316$) of participants reported consuming alcohol before their last hookup (see Table 1). Participants had an average of 3.03 hookups ($SD = 1.38$, Range 2-7) in the last 30 days. Participants reported a variety of behaviors during their last hookup, including kissing (94.4%), oral sex (performed 35.2%; received 38.1%), vaginal sex (42.1%), solo masturbation (18.7%), and anal sex (performed 4.5%; received 3.5%). Of the 598 participants who reported vaginal sex at last hookup, 67.3% ($N=408$) reported using a condom. Of the 82 participants who reported participating in anal sex at last hookup, only 49.2% ($N=30$) reported using condoms.

Overall, participants had low SSS scores; the mean sum score was 1.84 ($SD = .60$). The range was 1-4 for each item and the combined mean score. The mean for each item on the scale is reported in Table 2. Participants reported the highest mean score on the item, "I am interested in trying out new sexual experiences" ($M=2.20$, $SD=1.01$) and the lowest mean score on "I have said things that were not exactly true to get a person to have sex with me" ($M=1.27$, $SD=.62$).

Table 2. First-year college student sexual sensation seeking mean scores ($N=1,480$).

	<i>M</i>	<i>SD</i>
1. I like wild "uninhibited" sexual encounters	1.66	.85
2. The physical sensations are the most important things about having sex	2.13	.92
3. I enjoy the sensation of sex without a condom	2.05	1.08
4. My sexual partners probably think I am a "risk taker"	1.59	.83
5. When it comes to sex, physical attraction is more important to me than how well I know the person	1.67	.84
6. I enjoy the company of "sensual" people	2.08	.90
7. I enjoy watching "X Rated" videos	1.80	.95
8. I have said things that were not exactly true to get a person to have sex with me	1.27	.62
9. I am interested in trying out new sexual experiences	2.20	1.01
10. I feel like exploring my sexuality	1.61	.93
11. I like to have new and exciting sexual experiences and sensations	2.14	1.01
Sum mean score	1.84	.60

Differences in SSS by race, gender, and sexual orientation

There were significant mean differences in SSS scores by gender $F(1,1427) = 53.5$, $p < .001$. Men had significantly higher SSS scores ($M=1.96$, $SD = .58$) than women ($M=1.74$, $SD = .59$). There were also significant mean differences in SSS scores by sexual orientation $F(1,1425) = 22.18$, $p < .001$. Heterosexual students reported lower SSS ($M=1.82$, $SD = .59$) than sexual minority students ($M=2.09$, $SD = .62$). There were no significant differences by race $F(2,1154) = .80$, $p = .45$.

SSS and hookup behaviors

There were highly significant relationships ($p < .001$) between SSS scores and participation in hookup behaviors for all behaviors except for kissing $\beta = .82$, $p = .303$ and having their breast and buttocks touched by their partner $\beta = 1.21$, $p = .052$. As mean scores increased the likelihood of participating in all hookup behaviors besides the two previous mentioned also increased. Significant behaviors include penetrative (anal sex, vaginal sex, and oral sex), non-penetrative

(touching partner breast or butt, partner touched their breast or buttocks), and masturbatory activities (mutual masturbation, partner stimulated their genitals, they stimulated their partner's genitals). See Table 3 for a frequency of participation in each behavior. Majority of the hookups included kissing ($N=1384$; 94.4%), less than half included vaginal sex ($N=610$; 42.1%), and a little over a third included giving ($N=509$; 34.4%) or receiving ($N=551$; 38.1%) oral sex.

Table 3. Frequency and odds of participating in hookup behaviors based on SSS scores.

Hookup behavior	<i>n</i>	%	OR [95% CI]
Kissing or making out	1,384	94.4	.82 [.57–1.19]
You touched your partner's breast or buttocks area	868	59.5	.25 [2.06–3.09]**
You had your breast or buttocks touched by your partner	946	65.0	1.20 [1.0–1.44]
You stimulated your partner's genitals with your hand	849	58.3	3.08 [2.51–3.81]**
You had your genitals stimulated by your partner's hand	929	63.9	3.27 [2.62–4.09]**
You stimulated your own genitals	271	18.7	3.52 [2.79–4.44]**
Your partner stimulated his/her genitals	384	26.6	2.78 [2.24–3.38]**
You performed oral sex	509	34.4	2.86 [2.35–3.49]**
Your partner performed oral sex on you	551	38.1	2.93 [2.40–3.58]**
You had vaginal sex	610	42.1	2.58 [2.13–3.14]**
You had anal sex—you penetrated your partner	65	4.5	4.11 [2.84–5.96]**
You had anal sex—your partner penetrated you	51	3.4	3.81 [2.54–5.71]**

Note: The reported odd ratios are the results of the logistic regression models with SSS predicting each of the hookup behaviors. OR odds ratio, CI confidence interval. $p < .05^*$. $p < .01^{**}$.

Table 4. Predictors of condom use during vaginal and anal sex and alcohol use at last hookup.

	Condom Use at Vaginal Sex ($n=594$) OR [95% CI]	Condom Use During Anal Sex ($n=82$) OR [95% CI]	Alcohol Use During Last Hookup ($n=1,426$) OR [95% CI]
Block 1			
SSS	.56** [.49–.86]	.49* [.27–.89]	1.59** [1.30–1.96]
Block 2			
SSS	.57** [.43–.77]	.49* [.27–.91]	1.67** [1.36–2.07]
Gender	.33** [.23–.49]	1.04 [.41–2.66]	1.14 [.88–1.49]
Sexual Orientation	.78 [.41–1.49]	.57 [.17–1.87]	1.83* [1.07–3.12]
Block 3			
SSS	.41 [12–1.35]	.02 [.00–1.67]	2.52* [1.05–6.05]
Gender	.22* [.05–.91]	.40 [.02–8.85]	2.21 [.92–5.30]
Sexual Orientation	.48 [.04–5.75]	.13 [.00–.00]	2.95 [.41–21.04]
SSS*Gender	1.22 [.64–2.30]	1.52 [.43–5.32]	.71 [.47–1.09]
SSS*Sexual Orientation	1.26 [.42–3.77]	23.7 [.30–1874.54]	.80 [.34–1.86]

Note: Female is the referent group for gender and heterosexual is the referent group for sexual orientation. OR odds ratio, CI confidence interval. $p < .05^*$. $p < .01^{**}$. Large and small confidence intervals appear in the model for anal sex because the sample size is so small. The moderating effects of gender and sexual orientation were tested using interaction variables. There are differences in the sample sizes for each analyses because only students who engaged in these specific sexual behaviors were asked about their condom use or alcohol use.

SSS and condom use

The results of the logistic regression assessing SSS mean scores and condom use during vaginal sex showed in Block 1 that students with high SSS were less likely to use condoms during vaginal sex ($p = .003$; Table 4). In Block 2, female participants more likely to report using condoms during vaginal sex compared to males when controlling for sexual orientation ($p < .001$). The interaction terms were not significant in Block 3 which suggests there were no moderating effects.

The results of the logistic regression analyzing the association between SSS and condom use at last anal sex indicate that those with higher SSS scores were significantly more likely to report not using a condom during anal sex ($p = .02$). In Block 2, gender nor sexual orientation were significant predictors however, when controlling for gender and sexual orientation the relationship between SSS and condom use remained significant ($p = .02$). In Block 3, the interaction terms were not significant suggesting that there were no moderating effects.

SSS and alcohol consumption during last hookup

There was a significant relationship between SSS and alcohol consumption prior to last hookup (Block 1 in Table 4). Participants who reported higher SSS scores were significantly more likely to consume alcohol during or before their last hookup $p < .001$. In Block 2, gender and sexual orientation were added to the model. Gender was not significantly associated with alcohol use when controlling for all other variables in the model, but sexual orientation was $p = .03$. Heterosexual students were 83% more likely to consume alcohol than sexual minority students when controlling for gender. In Block 3, the interaction terms were not significant suggested no moderating effects.

Differences in level of intoxication

The results of the one-way ANOVA showed that there were no significant mean differences in SSS scores by level of intoxication $F(2,287) = 2.59, p = .09$. There were not differences in level of intoxication by gender $\chi^2(2) = .31, p = .858$ or sexual orientation $\chi^2(2) = 4.81, p = .09$.

Discussion

This study sought to examine the relationship between SSS, demographic correlates, hookup behaviors, and alcohol use among first-year college students. Similar to previous research, students in this study had low SSS scores,¹⁴ suggesting that first-year college students' sexual decision making may not be strongly influenced by personality traits such as SSS. Only 61 students in this study scored a 3 or 4 on the SSS scale which means that majority of the students were not sexual sensation seekers. Despite statistical significance, there was little meaningful difference between the mean SSS scores across all demographics. The findings support the hypothesis that there would be significant mean differences by gender and sexual orientation, however contrary to our hypothesis there were no significant mean differences by race. Similar to previous research on gender^{32,33} and sexual orientation,²³ sexual minority students had higher SSS scores compared to heterosexual students and males had higher SSS scores compared to females. However, there were no racial differences in SSS within this sample of first-year college students which supports the findings of previous research.^{20,21} Although students of color are at higher risk of contracting STIs, SSS may not be a risk factor for their sexual behaviors because their SSS scores were similar to their White peers.

Research on college student's sexual health behaviors has typically focused on anal, vaginal, and oral sex. In the present analysis, twelve individual hookup behaviors were analyzed. These results support the hypothesis that as SSS scores increase the likelihood of participating in a wide

range of sexual behaviors including penetrative, non-penetrative, and masturbatory behaviors also increases. Flanders, Arakawa, and Cardozo found that students with higher SSS scores were more likely to have explorative tendencies including experiences with and willingness to try various sexual positions and reported an higher overall satisfaction with life.¹² Thus, students with higher SSS scores are more likely to engage in behaviors that increase the amount of stimulation they experience and induce arousal.¹⁰ Prior research indicates women find non-penetrative behaviors such as kissing, touching, oral sex, and mutual masturbation as essential to their sexual satisfaction and overall pleasure.^{32,34} Although unprotected oral sex can be a pathway for STI transmission, it is typically not perceived as a sexual risk behavior by college students.^{33,35-37} Oral sex during hookups can be a primary source of pleasure for women and male.^{33,34,38} Future research should utilize qualitative or mixed methods to explore the specific behaviors that sexual sensation seekers find most pleasurable during their hookups to reduce their risk of STIs.

Our findings support our hypothesis and previous research that shows as SSS scores increase students are less likely to use condoms during vaginal and anal intercourse.³⁹⁻⁴² Sexual sensation seekers may be less likely to use condoms during vaginal and anal sex because of perceived arousal loss. Because of the low SSS scores in our sample we suggest that all students, not only sexual sensation seekers, should receive interventions that focus on how to engage in protective behaviors during sex (e.g. eroticizing condom use) to increase the likelihood of using condoms during these novel behaviors.⁴³

Due to the misuse of alcohol among first-year college students this study examined the association between SSS scores and alcohol use prior to a hookup. Contrary to many statistics about high alcohol consumption rates among first-year college students, in this sample approximately one out of four students consumed alcohol before their last hookup. These results confirmed the hypothesis that students with higher SSS scores were more likely to consume alcohol prior to their last hookup. Sexual sensation seekers typically have less intentions to avoid drugs and alcohol during sex,⁴⁴ which heightens their sexual risk. Alcohol use has been shown to decrease a person's willingness to delay sex to obtain a condom even when it is readily available⁴⁵ which places them at higher risk of contracting STIs or human immunodeficiency virus (HIV).⁴⁶ This is of critical importance since in prior research first-year sexual minority students were more likely to have sex under the influence of alcohol, however in this sample heterosexual college students were more likely to consume alcohol prior to a hookup. This could be attributed to the small sample size of sexual minority students. Although reports of alcohol use prior to a hookup was low future research should investigate ways to address the intersection between alcohol use and sex especially for sexual minority students.

Limitations

Although this study filled the gap in the literature by analyzing SSS in an ethnically diverse sample of first-year college students, it was not short of its limitations. First, the data was an online survey that required relied on self-report of alcohol use and sexual behaviors. Secondly, although there were statistically significant differences in behaviors, SSS was relatively low across the sample of students. The opportunity to participate in the survey was presented to all first-year college students, but it is possible that those who engage in SSS behaviors self-selected

to not participate in the study. Therefore, the generalizability of the results presented here may be limited. Another possible limitation is the wording of the questions and the relevance of the SSS scale. Although Zuckerman's scale has been shown to be reliable and valid among heterosexual college students and ethnically diverse populations, it has not been modified since 2011. In this modification, one question was removed to removed that did not function well.¹⁴ Some of the components on the scale may not reflect college students' definitions of novel behaviors and risk taking in today's society which may explain their low scores. Since the original scale was developed for White homosexual males it may not be the best fit to assess SSS among an ethnically diverse sample or those who do not identify as a sexual minority or male. Qualitative research is needed to create a relevant scale that incorporates updated measures of SSS that may vary by sexual orientation and ethnicity as it may manifest itself differently for these samples. Finally, this study did not include in sex positive outcomes such as sexual satisfaction and pleasure which have both been linked to higher SSS scores. Understanding the positive aspects of SSS is needed in order to have a holistic evaluation of the personality trait and its effects on college students.¹²

Future implications

Although SSS was low among this overall population, there were 61 students who had a mean score that placed them in the high sexual sensation seeker group. Despite the lower SSS scores college students still engaged in sexual risk behaviors such as alcohol consumption prior to their last hookup and condomless sex. Thus, researchers should develop sexual health interventions and programs that could be implemented to assist college students achieve pleasure in healthy ways. Sexual health programs are often not prioritized as highly as other health programs such as tobacco, drug, and alcohol prevention on college campuses.⁴⁷ In 2012, Healthy Campus 2020⁴⁸ made a call for an increase in the proportion of postsecondary students who receive information from their institution regarding HIV and STIs. Chng & Gélige-Vargas suggest that programs should focus on educating people on alternative, novel safer sex behaviors.⁴⁹ Condom use among college students has been noted as a safer sex practice that some students believe interferes with their pleasure.^{18,50} Programs and interventions that have focused on promoting sexual pleasure have shown a greater increase in condom use and condom acceptance.⁵⁰ Thus, one possible way to address this is to create positive perceptions of condoms by implementing programs that eroticize condom use and dispel myths related to condom use and pleasure.^{50,51}

Conclusion

College provides the opportunity for students to explore their sexuality and engage in a variety of sexual behaviors. Overall first-year college students SSS scores were considerably low suggesting that this personality trait may not be a strong predictor of sexual risk behaviors for this group. Therefore, interventions should focus on ways to encourage novel and pleasurable safer sex experiences for all college students in order to address the sexual risk behaviors of both sexual sensation seekers and non-sexual sensation seekers to reduce their likelihood of negative sexual health outcomes.

Conflict of interest disclosure

The authors have no conflicts of interest to report. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements, of the United States of America and received approval from the University of North Carolina Greensboro.

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